

Date: Mon, 14 Mar 94 04:30:34 PST
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #60
To: Ham-Homebrew

Ham-Homebrew Digest Mon, 14 Mar 94 Volume 94 : Issue 60

Today's Topics:

 Best cars for mobile HF/VHF??
 Best truck/sport util for HF/VHF?
 Cubic incher
 Duplexer design info?
 home-built crystal filter - it works!
 HP components
 Info on James Knights Xtal/oven
 Looking For Plans/kits..vhf Cw/ssb Qrp
 Ramsey Hobbykits QAMP.
 Series Diodes (was Re: Paralleling ...)
 Two Unknown Chips (2 msgs)
 TX amp kit? Help.
 WEFAX converter

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 13 Mar 94 16:42:44 GMT
From: mnemosyne.cs.du.edu!nyx10!jmaynard@uunet.uu.net
Subject: Best cars for mobile HF/VHF??
To: ham-homebrew@ucsd.edu

In article <1994Mar11.135613.16379@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>Look at what the cops are driving. Ford Crown Victorias seem popular
>with them, as do Chevy Caprices.

There's a brand new '94 Crown Vic with police package sitting in my driveway as I type this, courtesy of the EMS I run with. All I can say is...WOW!!! (Unfortunately, I have to pass it along at the end of my shift...)

> Order your's with the same fleet codes
>that they use and you'll have a car that works well with radios.

I thought mere mortals couldn't buy cars with those fleet codes.

--

Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@oac.hsc.uth.tmc.edu | adequately be explained by stupidity.
"The difference between baseball and politics is that, in baseball, if you
get caught stealing, you're out!" -- Ed Shanks

Date: 13 Mar 1994 20:10:38 -0500
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!wupost!udel!news.udel.edu!
brahms.udel.edu!not-for-mail@network.ucsd.edu
Subject: Best truck/sport util for HF/VHF?
To: ham-homebrew@ucsd.edu

Thanks for your input on cars etc. so far.

I have narrowed my thinking to a small pickup or sport utility such as
Bronco, Trooper, etc., probably 86 to 91.

I am told that American cars have less solid state devices to go awry
due to RF from HF or VHF rigs, that Ford seems to be a good choice, that
Japanese vehicles may be more susceptible to RF.

Again, besides physical comfort (my back) criteria include lack of problems
from car to rig and vice versa, and other normal concerns.

All input welcomed. Thanks again. Bob

--

Bob Penneys, WN3K Frankford Radio Club Internet: penneys@pecan.cns.udel.edu
Work: Ham Radio Outlet (Delaware) (800) 644-4476; fax (302) 322-8808
Mail at home: 12 East Mill Station Drive Newark, DE 19711 USA

Date: 14 Mar 1994 09:29:07 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!pipex!sunic!ugle.unit.no!
stud.unit.no!kenneth@network.ucsd.edu
Subject: Cubic incher
To: ham-homebrew@ucsd.edu

Referring to the cubic inch in the ARRL handbook, chapter 30.

In the handbook the data for the inductors are only listed for 80, 40 and 30 m. I plan to build this for 20 meter, does anyone out there know the specifications for the inductors ??

thanks,

kenneth, LA7GIA.

Date: Sun, 13 Mar 1994 15:09:59 GMT
From: ihnp4.ucsd.edu!swrinde!emory!wa4mei!ke4zv!gary@network.ucsd.edu
Subject: Duplexer design info?
To: ham-homebrew@ucsd.edu

In article <199403122332.PAA14622@ucsd.edu> n7oo@huachuca-emh8.army.mil (Jack Taylor) writes:

>In browsing various publications, appears modern VHF/UHF duplexer design is
>a product of the black art. I'm in the process of cutting down an old
>DB Products band-pass 2M duplexer for 220 MHz. This duplexer has coupling
>loops in each cavity. My references don't discuss whether there is an
>optimum coupling loop shape factor Vs frequency. Nor is anything
>mentioned whether the lengths of the cavity coaxial connecting lengths are
>critical. One commercial reference cautions field technicians from modifying
>the coaxial harness, stating to do so will cause deterioration of duplexer
>performance.

>

>Whilst the cavities are apart, it would be nice to modify them for band-
>reject operation as well. Again, my references are silent on this topic.

The harness is an integral part of the duplexer. For a band reject duplexer, the electrical lengths of the cables are integral parts of the tuned system. Altering them will grossly alter the behavior of the system. The cables are *slightly* less critical in a bandpass duplexer, but impedance matching is even more critical, and shielding is crucial.

A bandpass cavity has two ports, input and output, a band reject cavity has a single port. It behaves as a tuned stub with the harness forming a part of the stub. The idea is to have a pole zero at the thru line connection. Coupling loops really are a black art. Their shape, size, and position all interact to give the desired degree of insertion loss, impedance match, and passband shape. There are analytical methods of designing them, but most shops seem to rely more on cut and try methods.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

Date: Sun, 13 Mar 1994 19:09:15 GMT

From: ihnp4.ucsd.edu!agate!usenet.ins.cwru.edu!nshore!seastar!jjw@network.ucsd.edu

Subject: home-built crystal filter - it works!

To: ham-homebrew@ucsd.edu

Another progress report on crystal filter designing: As I did not have the correct caps for an 8-pole SSB filter, I used some of the extra crystals I'd matched to make a 2200Hz 5-pole Chebychev 0.1db ripple filter. Results were quite good!

The design spec was for 2200Hz bw, and the result was 2240Hz wide. It drops like a rock on both sides. Is 200 ohms in and out, so I matched it with a 4:1 transformer on the input and a 200 ohm resistor on the end.

I have not yet measured insertion loss, and the ripple looks a little bit higher than 0.1db (like maybe 0.5db) using stock value capacitors. I did no tuning at all, just used the closest stock value caps I had, and it works well.

The program I wrote calculates not only the shunt caps, but the series caps needed to re-resonate the crystals. These caps are the important ones if you want the shape to be correct. Calculating these by hand is a bit of a bear, but with a computer and BASIC it's pretty easy.

Now to prettify the program and the output, get some more caps and sling more solder...

73 de N9JZW

--

While (its_not_working())
 mess_with_it();

John Welch, N9JZW
jjw@seastar.org

Date: 14 Mar 1994 07:26:59 GMT

From: olivea!flash!robertov@decwrl.dec.com

Subject: HP components

To: ham-homebrew@ucsd.edu

>Is there anybody that knows which ,if any,74xxxx or other equivalent are
>hp components 1820-0092, 1820-0090, 1820-0093, 1820-0119 or

>have a list in general for hp to commercial equivalent
>sorry if this is a ricorrent question .
>Thanks to anybody that will help me.

>Please email me directly.

Thank to everybody that gave me help in solving this problem.
if somebody have the same problem please let me know I will
send to him the answer.
Again thanks to all.

Sincerly

Roberto VALFREDINI

Date: 14 Mar 1994 04:49:21 GMT
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!gerald.cc.utexas.edu!
calvin.ph.utexas.edu!bsn@network.ucsd.edu
Subject: Info on James Knights Xtal/oven
To: ham-homebrew@ucsd.edu

I am looking for information on a crystal/oven manufactured by James
Knights Company. It is a 1 MHz rock mounted in an oven which operates
at 55 C. The model number is JK5T. The heater runs on 6.3 volts and the
volts and the unit plugs into a 5 pin socket. In the best of all
worlds, I'd like to know the pin-out, the xtal cut and whether the
xtal was designed for series or parallel operation.

In any case, does anyone know if the James Knights Co. is still in
business? They were located in Sandwich IL when the crystal I have was
manufactured.

Tne es 73,
Barry W5KH

Date: 14 Mar 94 01:43:00 -0500
From: blkcat!1-109-239-0!Timothy.Cadigan@uunet.uu.net
Subject: Looking For Plans/kits..vhf Cw/ssb Qrp
To: ham-homebrew@ucsd.edu

Harry, let me know if you get any bites on your message,
I would love to see some qrp stuff for 6 meters!
Thanks and good hunting. Also I have found a source for the

Motorola FM transmitter chip - nice little thing.
thanks again, 73 Tim Cadigan, wclf
Cadigan@Guvax.edu

Date: Sun, 13 Mar 1994 17:12:01 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!newsserver.jvnc.net!
raffles.technet.sg!ntuix!ntuvax.ntu.ac.sg!asirene@network.ucsd.edu
Subject: Ramsey Hobbykits QAMP.
To: ham-homebrew@ucsd.edu

Hi,
Has anyone here built the Ramsey Hobbykits' QAMP Tx amplifier with
the T-R reply? Any comments? What is the size of this thing and how well does
it perform? Tks.

73,
Daniel

Date: 11 Mar 94 01:42:42 GMT
From: ihnp4.ucsd.edu!munari.oz.au!yoyo.aarnet.edu.au!news.adelaide.edu.au!
news.cs.su.oz.au!metro!grivel!metz.une.edu.au!smattila@network.ucsd.edu
Subject: Series Diodes (was Re: Paralleling ...)
To: ham-homebrew@ucsd.edu

There one more good reason to put a capacitor parallel with a power
rectifier diode. Carrier lifetime in typical diode happens to cause
fair amount of RF noise in the 1 - 15 MHz band. The noise is very sharp
mains frequency pulses. About 1 nF ceramic capacitor parallel with each
diode with very short leads takes most of this noise out. The curious thing
is, that capacitors before and after bridge rectifier are not effective.

Very few books (maybe Rohde's) deal with this phenonema, but I have read
about it and made several experiments with various silicon rectifiers.
Good old selenium rectifiers are free from this kind of noise.

Sakari Mattila smattila@metz.une.edu.au VK2XIN, OH2AZG (Cis: 71307,1525)
P.O.Box u13 tel. +61 67 733752 -----
Armidale NSW 2351 -----

Date: Sun, 13 Mar 1994 05:47:43 GMT

From: ihnp4.ucsd.edu!library.ucla.edu!europa.eng.gtefsd.com!
howland.reston.ans.net!usenet.ins.cwru.edu!news.ysu.edu!malgudi.oar.net!witch!ted!
mjsilva@network.ucsd.edu
Subject: Two Unknown Chips
To: ham-homebrew@ucsd.edu

Hi,

I'd like to get a little info on two chips I've run across. One is an NEC B571C, 8 pin DIP (so I know it's not the Signetics compandor). I think it's a prescaler for a PLL. The other is a (Plessey?) PSSR SL560C, 8 pin DIP, which may be an IF amp. I'm hoping to get enough of a description of these to decide if they might be fun to play with. Thanks for any info.

73,
Mike, KK6GM

Date: Mon, 14 Mar 1994 09:00:17 GMT
From: netcomsv!netcom.com!tgm@decwrl.dec.com
Subject: Two Unknown Chips
To: ham-homebrew@ucsd.edu

Michael Silva (mjsilva@ted.win.NET) wrote:
: I'd like to get a little info on two chips I've run across. One is an
: NEC B571C, 8 pin DIP (so I know it's not the Signetics compandor). I
: think it's a prescaler for a PLL. The other is a (Plessey?) PSSR
: SL560C, 8 pin DIP, which may be an IF amp. I'm hoping to get enough
: of a description of these to decide if they might be fun to play with.
: Thanks for any info.

I can help a little on the NEC device. The UPB571C is a dual modulus pre-scaler rated up to 500 MHz. It offers the following ratios:

divide by 16, divide by 17
divide by 32, divide by 33
divide by 64, divide by 65

Input sensitivity is 400 mV,p-p and output amplitude is 1.2 V,p-p.
Supply voltage is 4.5 to 5.5 volts at 11 mA.

I don't have info on the pin-out.

I think it is manufactured by a division of NEC known as California Eastern Laboratories. Here are some phone numbers:

(408) 988-3500
(408) 988-7846
(213) 645-0985

73,

Thomas KI4N

Date: Sun, 13 Mar 1994 15:09:43 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!newsserver.jvnc.net!
raffles.technet.sg!ntuix!ntuvax.ntu.ac.sg!asirene@network.ucsd.edu
Subject: TX amp kit? Help.
To: ham-homebrew@ucsd.edu

Hi,

I need a recommendation for a TX amp of about 20-30 watts output on
20 meters from about 4 watts input, kitform, small sized so I can put it in
the same case as my QRP xcvr and with built in T-R switching. Price must not
be too expensive. Any ideas?

73,
Daniel

Date: 11 Mar 94 01:45:46 GMT
From: ihnp4.ucsd.edu!munari.oz.au!yoyo.aarnet.edu.au!news.adelaide.edu.au!
news.cs.su.oz.au!metro!grivel!metz.une.edu.au!smattila@network.ucsd.edu
Subject: WEFAX converter
To: ham-homebrew@ucsd.edu

This comment is in fact a reply to Ron's question, but my mail does not
reach him.

To: us240099@emi.3m.com.dnet

Subject: Re: S-Band converter design
Newsgroups: rec.radio.amateur.homebrew
In-Reply-To: <2klf26\$olr@dawn.mmm.com>
Organization: University of New England, Armidale, Australia

Ron,

There are WEFAX converters available from UKW Berichte in Germany.

These are very good ones, but pretty expensive. My friend in Finland has one and is satisfied with it. I have address and some more data at home.

Also plans and PCB patterns for some WEFAX converters were published in the Wireless World about 15 years ago. These are still usefull, you only add a modern pre-amplifier.

Timestep Limited in U.K. also sells 1.7 GHz WEFAX converters.

The output of WEFAX systems is around 137 MHz, you must change some crystals and retune output circuits.

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P.O.Box u13 tel. +61 67 733752 -----
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Date: Sun, 13 Mar 1994 14:55:42 GMT
From: ihnp4.ucsd.edu!swrinde!emory!wa4mei!ke4zv!gary@network.ucsd.edu
To: ham-homebrew@ucsd.edu

References <1994Mar11.074413.1@csusys.ctstateu.edu>,
<1994Mar11.143900.16768@ke4zv.atl.ga.us>, <2ltfqa\$31f@winfree.gag.com>
Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)
Subject : Re: Looking for plans/kits..VHF CW/SSB QRP

In article <2ltfqa\$31f@winfree.gag.com> bdale@gag.com (Bdale Garbee) writes:
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>: Look at the two part feature in recent QSTs describing Rick Campbell's
>: SSB rig. It will work on any frequency up to 70 cm.
>
>I sent an SASE asking for more info to the supplied address a couple of
>months ago, but have heard nothing back... was I unlucky? Time to try again,
>I suppose.

I'm afraid that appears rather typical of Rick. He does good designs, but he services reader response only when he feels like it, which appears to not be often. I had similar problems getting him to fullfill on the 902 MHz transverter kit. I eventually got it, but response time was slightly over one year. (!) I advise getting the board templates from the ARRL and proceeding on your own. (His designs really do tend to be foolproof, it's worth the effort. The slow response I suffered may not be typical, others I know have gotten much quicker service. I've built two different transverters of his design. Both worked first time without any fooling

around. I've no doubt the transceivers will work as well. I'm intending to hunt him down at Dayton and deal face to face for a couple of them.)

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

End of Ham-Homebrew Digest V94 #60
